POSTER

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Diffuse Multi-vessel Coronary Artery Spasm by Intravenous Ergonovine Provocation Test is Not a Physiological Response by Ergonovine But One of the Type of Varinat Angina

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Background: Ergonovine physiologically produces diffuse vasoconstriction less than 30% in epicardial arteries. However, severe diffuse multi-vessel vasospasm by ergonovine has not been exactly validated whether it is a true indicator of vasospastic angina or only a natural pharmacodynamic response.
Methods: Patients with suspected variant angina who underwent cardiac catheterization with intravenous ergonovine provocation test(antecubital vein, 0.4mg) were followed for a median period of 41.2 months. Left and right coronary artery were evaluated simultaneously. The patients were divided into 3 distinct groups according to their response to ergonovine; no spasm, diffuse multi-vessel spasm and other spasm(non diffuse multi-vessel spasm). The definition of diffuse multi-vessel vasospasm was vasoconstriction >70% of baseline luminal diameter, the length of vasoconstriction >2cm of epicardial coronary artery and vasoconstriction developed in more than one major epicardial artery.
Results: A total 96 patients(56 male) were enrolled. There were 68 patients, 16 and 12 patients in the no spasm, diffuse multi-vessel spasm and other spasm group, respectively. The median age of patients was 46.5, 50.5 and 51 years(p=0.24). The proportion of the male was 52.9%, 58.3% and 81.2%(p<0.05), the current or ex-smoker was 26.5%, 50.0% and 50.0%(p<0.05), the alcohol drinker was 20.6%, 33.3% and 43.8%, respectively(p<0.05). The mean value of triglyceride(TG); 125±85, 169±87 and 179±90(p<0.05), high density lipoprotein(HDL); 49±12, 47±10 and 40±12(p<0.05), respectively. Major adverse cardiac events(MACE) including myocardial infarction, need for coronary revascularization procedure and death occurred in 1(1.5%), 1(6.3%) and 0 patient, respectively(p=0.42). Recurrence of chest pain was observed in 14(20.6%), 6(37.5%) and 5 patients(41.7%), respectively(p=0.09).
Conclusions: Diffuse multi-vessel spasm was more frequently induced by ergonovine in patients with cardiovascular risk factors such as male, current or ex-smoker, alcohol drinker, hypertriglyceridemia and low HDL. Although the prognosis of variant angina is relatively good, however the rate of recurrence of chest pain tends to be higher in diffuse multi-vessel spasm or other spasm group than no spasm group. These results suggest that diffuse multi-vessel spasm should be considered as a type of variant angina, not a physiologic response by ergonovine and should be treated and followed up with similar manner like patients with previously known typical type of variant angina.

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Impact of Spontaneous Recanalization of Infarct Related Artery on Mid-term Clinical Outcomes in Diabetic Acute ST-segment Elevation Myocardial Infarction Patients in Drug-eluting Stent Era

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Objectives: Spontaneous recanalization of infarct related artery (IRA) in diabetic acute ST segment elevation myocardial infarction (STEMI) patients (pts) are associated with better clinical outcomes in bare metal stent era. There are limited data regarding the prognosis of diabetic STEMI pts with spontaneous recanalization of IRA in the drug eluting stent (DES) era.
Methods: The study population consisted of 1408 consecutive diabetic STEMI pts enrolled in the Korea Acute Myocardial Infarction Registry (KAMIR). We compared the clinical outcomes of STEMI pts with spontaneous recanalization (SR) of IRA (TIMI 3, n=251, 17.8%; SR group) to those of pts without SR of IRA (TIMI 0, 1, 2, n=1157, 82.2 %; No SR group) who underwent primary percutaneous coronary intervention (PCI) with DES.
Results: The baseline clinical and procedural characteristics were balanced between SR group and No SR group except more male and elderly pts, prior usage of antiplatelet therapy and statin therapy, higher post PCI TIMI-3 flow in SR group whereas higher incidence of complex lesions and longer stents used in No SR group. SR group showed less incidence of TLR and TVR at 8 months in univariate analysis (p=0.014, p=0.010, respectively). However, after the multivariate analysis, there were similar mid-term major clinical outcomes including mortality, any re-AMI, and total major adverse cardiac events (MACE) except a trend toward higher TVR in NSR group. SR of IRA tends to be associated with less incidence of TVR (p=0.07, odds ratio 6.56, 95% CI: 0.85 to 50.32).
Table. Eight-Month Clinical outcomes (on Multivariate analysis)

Variables, N (%)	Spontaneous Recanalization (SR) (n=251, 17.8%)	No Spontaneous Recanalization (No SR) (n=1157, 82.2 %)	P value
Total deaths	17 (6.8)	70 (6.1)	0.31
Cardiac Deaths	9 (3.6)	47 (4.1)	0.16
Any MI	8 (3.2)	29 (2.5)	0.24
Q-MI	2 (0.8)	19 (1.6)	0.75
Non Q-MI	6 (2.4)	10 (0.9)	0.15
Repeat Revascularization	9 (3.6)	66 (5.7)	0.34
TLR-PCI	0 (0)	25 (2.2)	0.99
TVR-PCI	1 (0.4)	34 (2.9)	0.07*
Total MACE	31 (12.4)	159 (13.7)	0.34

Conclusion: The prevalence of SR in IRA of diabetic acute STEMI was 17.8%. Despite the worse baseline clinical characteristics, pts without SR in IRA showed similar midterm clinical outcomes except the trend toward higher TVR, suggesting favorable impact of DES.

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Alcohol-Related Cirrhosis is Associated with Significantly Less Angiographically Severe Disease than Non-Alcoholic Related Cirrhosis

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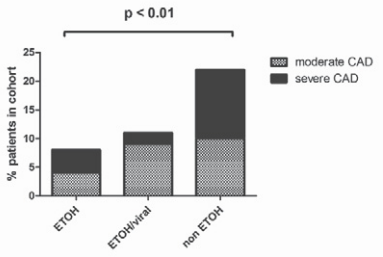
Background: There is conflicting data as to the prevalence of coronary artery disease (CAD) in patients with endstage liver disease (ESLD) being assessed for liver transplantation (LT). The aims of this study were to perform (to date) the largest assessment of the coronary angiographic (CA) characteristics in this population; to compare the prevalence of CAD in patients with alcohol-related *v* non-alcohol related ESLD and to assess the diagnostic utility of dobutamine stress echocardiography (DSE) in predicting angiographically important CAD.
Methods: Consecutive patients with ESLD being assessed for LT (n=420, mean age 56 ± 8) were identified and divided into alcohol only related ESLD (n=80), alcohol/viral-related ESLD (n=45) and non-alcohol related ESLD (n=295). Demographic, vascular risk factors and CA characteristics were recorded.
Results: There were no significant differences in age or vascular risk factors between groups, however the alcohol only and alcohol/viral groups had significantly less prevalence of severe CAD (defined as >70% stenosis in a major epicardial vessel) *v* non-alcohol group (p<0.01) (Figure). In all groups, presence of >1 vascular risk factor was associated with significant CAD (p<0.05 for all). DSE was performed in 205 patients. In all groups, DSE had poor predictive value for diagnosing significant CAD, but was useful in ruling out patients without significant disease (alcohol only: PPV 14%, NPV 89%; alcohol/viral: PPV 0%, NPV 88%; non-alcohol: PPV 24%, NPV 80%).



Conclusion: There was a significantly lower prevalence of severe CAD in patients with alcohol-related ESLD. Our findings, therefore, suggest that invasive CA may not be necessary in this subgroup, particularly in the absence of vascular risk factors and negative DSE.

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Multicenter First In Man Trial with a Novel Drug Eluting Balloon in Patients Presenting with In-Stent Restenosis (PEPPER)

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Background: In-stent restenosis continues to be a therapeutic challenge. The present study aimed to evaluate the safety and efficacy of a new drug eluting balloon the Pantera Lux Paclitaxel Releasing Balloon in patients with a single in-stent restenotic lesion in coronary arteries.
Methods: Between August 17th, 2009 and February 15th 2010, 45 patients presenting with in-stent restenosis were treated with the Pantera Lux Paclitaxel Releasing Balloon at 6 German sites. Patients with a single restenotic lesion in a previously stented area of a coronary artery (irrelevant whether bare metal stent or drug eluting stent related) presenting with a target reference vessel diameter of 2 - 4 mm, a target lesion length of 8 - 28 mm and a symptomatic target lesion were enrolled in this first in man trial. The primary endpoint of this study was angiographic late lumen loss at 6-month follow-up. Angiographic data points were evaluated by an independent coronary angiography core lab.
Results: Thirty-seven men (82.2%) and eight women (17.8%) with a mean age of 69 ± 9.0 SD years presented with in-stent restenosis. Twenty-three (52.3%) bare metal stents and twenty-one (47.7%) drug eluting stents and one unknown stent type were implanted. All patients underwent a 1- and 6-month clinical examination and a 6 month angiographic follow-up. The majority of in-stent restenosis were classified as Mehran class II in N= 24 patients (53.3%) followed by class I in N= 15 pts (33.3%). Device success rate was 100% (defined as % exact deployment of the balloon as documented by two different projections assessed by quantitative coronary angiography). Cumulative MACE (composite of cardiac death, non-fatal MI, clinically driven TLR, clinically driven TVR) rate at 6 months and angiographic indices at 6 months will be available at presentation.
Conclusion: Treatment of in-stent restenosis in coronary arteries with the Pantera Lux Paclitaxel Releasing Balloon showed excellent acute results with a very high device success rate.

TCT-181

Role Of N-Terminal Pro-B-Type Natriuretic Peptide In Diagnosis and Prognosis Of Chinese Patients with Stable Coronary Artery Disease

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Background: N-terminal pro-B-type natriuretic peptide (NT-proBNP) has been recognized for its utility in patients with heart failure. Recently, evidences are emerging with regard to its value in coronary artery disease (CAD). This study aimed to determine the diagnostic and prognostic values of NT-proBNP in stable Chinese patients with angiographically proven disease. The performance of